UNITED STATES PATENT AND TRADEMARK OFFICE

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10/626,122	07/23/2003	Susan Sohn	SUN-P8124	9087

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 July 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   The instant application having Application No. 10/626,122 has a total of 24 claims pending in the application; there are 4 independent claims and 20 dependent claims, all of which are ready for examination by the examiner.

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

2.   The oath or declaration is defective. A new oath or declaration in compliance with **37 CFR 1.67(a)** identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The full name of the inventor as set forth in the Oath **[Susan Sohn]** is different from the name of the inventor as set forth in the Specification **[Suesan Sohn (Page 1, line 7)]**.

II. STATUS OF CLAIM FOR PRIORITY IN THE APPLICATION

3.   As required bye **M.P.E.P. 201.14(c)**, acknowledgement is made of applicant's claim for priority based on an application filed on June 3, 2003 (Provisional Application 60/475,675).

III. INFORMATION CONCERNING DRAWINGS

Drawings

The applicant's drawings submitted are acceptable for examination purposes.

IV. OBJECTIONS TO THE SPECIFICATION

Specification Objections

4.   The disclosure is objected to because of the following informalities:

The full name of the inventor as set forth in the Oath **[Susan Sohn]** is different from the name of the inventor as set forth in the Specification **[Suesan Sohn (Page 1, line 7)]**.

The words "in tact" (page 14, line 3) appear to be a typographical error. It is believed these words should be "intact" and has been treated as such for the rest of this Office action.

The specification recites the limitation "a first free space that starts at cylinder 300" on page 21, lines 25 ad 26. As best understood by the examiner, this limitation refers to a free space that starts at cylinder zero. The applicant might consider correcting this limitation to read -- **a first free space that starts at cylinder 0** --.

Appropriate correction is required.

Claim Objections

5.   Claims 22, 23, 24 and 25 are objected to because of the following informalities:

6.   The numbering of claims is not in accordance with 37 CFR 1.126 which

requires the original numbering of the claims to be preserved throughout the

prosecution. When claims are canceled, the remaining claims must not be

renumbered. When new claims are presented, they must be numbered

consecutively beginning with the number next following the highest numbered

claims previously presented (whether entered or not).

Claim number 21 has been omitted. Misnumbered claims 22, 23, 24 and

25 have been renumbered to 21, 22, 23, and 24 respectively and have been

treated as such for the rest of this office action.

7.   Appropriate correction is required.

V. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.   Claims **20-21, and 23-24** are rejected under 35 U.S.C. 102(b) as being

anticipated by Ruff et al. (US 6,088,778).

10.   As per **claim 20**, Ruff discloses "a system for determining a file system on

a disk" as it is explained that **["the present invention permits manipulation of**

selected partitions of a computer disk drive" (Column 1, lines 1-2)] and it is

disclosed providing "users with feedback regarding the current partition

configuration and a command interface for molding that configuration"

(Column 10, lines 3-5). Ruff further discloses "FAT (*file allocation table*)

partitions defined as primary partitions on the disk 2" (Figure 1 and

Column 8, lines 19-21)] "comprising: a disk coupled to a bus; a processor

coupled to said bus for determining a default file system on said disk;" [With

respect to this limitation, Ruff discloses "CPU 8," "Memory 10," "Program

storage media12," busses connecting these elements, and explains that

"the medium 12 tangibly embodies a program, functions, and/or

instructions that are executable by the processor 8 to perform disk

partition manipulation steps according to the present invention" (Figure 1

and Column 1, lines 46-49)] "a graphical user interface for modifying said

default file system layout," [With respect to this limitation, Ruff discloses that

"the displaying step 112 preferably utilizes a graphical user interface (*GUI*)

in the implementing program to provide users with feedback regarding the

current partition configuration and a command interface for molding that

configuration" (Column 10, lines 1-5)] "including preserving a partition" [With

respect to this limitation, Ruff discloses a method to "easily resize and

reconfigure IBM-compatible disk partitions without destroying any user

data" (Column 6, lines 3-4) and also teaches that "Journaling preserves at

least one copy of all user data on the disk at all times during the partition

modification" (Column 9, lines 3-5)] "wherein said default file system layout

can be modified in megabytes and cylinders" **[With respect to this limitation, Ruff teaches that disk drive cylinders contain sectors and that "a given sector on the disk 2 may be identified by specifying a head, a cylinder, and a sector within the cylinder" (Column 2, lines 15-17). Ruff also discloses that cylinders have a "starting address 42 and the ending address 44" (Column 4, lines 27-33) as specifying size boundaries for cylinders; explains that a "sector count 46 holds the total number of disk sectors in the partition" (Column 3, lines 51-52) and further teaches a form of manipulating partitions that involves resizing wherein an example is disclosed as "shrinking partitions from 200 megabytes down to 127 megabytes by moving the right edge toward the left edge" (Column 16, lines 28-30) as disclosing measuring a partition in megabytes as well as cylinders. Therefore, the partition has a size given in both; cylinders and bytes/megabytes]**.

11.   As per **<u>claim 21</u> (Notice: claim 22 on Application has been renumbered to claim 21)**, Ruff discloses "the system as described in claim 20" **[See rejection to claim 20 above]** "wherein said default file system comprises a root partition and a swap partition" **[With respect to this limitation, Ruff teaches that "the space occupied by the file allocation table(s), boot sector(s), and root directory is the "system area" (Column 18, lines 30-32). Ruff also teaches that "all logical partitions are contained within one primary partition; a primary partition which contains logical partitions is also known as an *extended partition*" (Column 3, lines 62-64)]**.

12.   As per **claim 23 (Notice: claim 24 on Application has been**

renumbered to claim 23) Ruff discloses "the system as described in claim 20"

[See rejection to claim 20 above] "further comprising an operating system

installer wizard for installing an operating system on said system" **[With respect**

to this limitation, Ruff discloses that "it is also necessary to keep the

partition locked until after rebooting if the operating system used on the

computer does not support dynamic partition resynchronization through

system calls or other means" (Column 24, lines 31-34) as demonstrating

that an operating system other than a currently installed one may be

installed. Ruff also claims "an improved method for installing an operating

system" (Column 24, lines 61-62). It is inherent that in order to install an

operating system, a computer system must follow a certain number of

steps; therefore, this disclosure is equivalent to adding a wizard to install

an operating system to the claimed invention].

13.   As per **claim 24 (Notice: claim 25 on Application has been**

renumbered to claim 24) Ruff discloses "the system as described in claim 24

(Notice: claim 24 on Application has been renumbered to claim 23)" [See

rejection to claim 23 above] "wherein said operating system installer wizard is

java based" **[With respect to this limitation, Ruff discloses that "those**

skilled in the art will readily create appropriate implementing programs

according to the present invention by using computer languages such as C

or C++, conventional compilers and linkers, and other tools familiar to

computer programmers" (Column 8, lines 49-53). At the time of the

invention, Java is a programming language well know to those skilled in

the art; therefore, using java would have been equivalent to using any other

well known programming languages such as C or C++].

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15.   **Claims 1-2, 5-9, 12-14 and 17-19** are rejected under 35 U.S.C. 103(a) as

being unpatentable over Ruff et al. (US 6,088,778) in view of Lawrence et al. (US

6,253,300).

16.   As per **claims 1 and 13**, Ruff discloses "A method for determining a file

system layout on a disk" as it is explained that ["**the present invention permits**

manipulation of selected partitions of a computer disk drive" (Column 1,

lines 1-2)] comprising "a processor coupled to a bus and a memory coupled to

said bus, a computer readable medium comprising instructions that when

executed implement a method of determining a file system layout on a disk"

[With respect to this limitation, Ruff discloses "CPU 8," "Memory 10,"

"Program storage media12," busses connecting these elements, and

explains that "the medium 12 tangibly embodies a program, functions,

and/or instructions that are executable by the processor 8 to perform disk

partition manipulation steps according to the present invention" (Figure 1

and Column 1, lines 46-49)]. Ruff further discloses "providing a default file system layout comprising a root partition, a swap partition and a plurality of unassigned partitions;" **[With respect to this limitation, Ruff teaches providing "users with feedback regarding the current partition configuration and a command interface for molding that configuration" (Column 10, lines 3-5), Ruff further discloses that "the space occupied by the file allocation table(s), boot sector(s), and root directory is the "system area" (Column 18, lines 30-32). Ruff also teaches that "all logical partitions are contained within one primary partition; a primary partition which contains logical partitions is also known as an *extended partition*" (Column 3, lines 62-64); and further discloses having and identifying free disk space for unassigned partitions as "free space not claimed by any partition" (Column 10, lines 31-32 and Figure 6, item 126)]** "assigning a size for each of said partitions; identifying available free spaces on said disk for said unassigned partitions; " and "assigning locations on said disk for partitions" **[Ruff discloses these limitations as it is taught that "file systems are generally used in combination with *partition* to define the physical organization of data on the disk. Partitions are often defined by the contents of a *partition table*" (Column 3, lines 1-4) and further explains that the system includes manipulations such as "displaying information about a partition such as its location, size, and associated file systems type; moving a partition to a different location on a disk that presently holds the partition or to another disk; molding or resizing a partition to include a different number of disk**

sectors within the partition; and resizing clusters in a FAT (*file allocation table*) partition" (Column 6, lines 41-47)].

Ruff does not disclose expressly "sorting partitions by size assigned from largest to smallest;" nor it is disclosed "assigning partitions form largest to smallest wherein partitions are filled in available free spaces identified from end to beginning;"

Lawrence discloses "sorting partitions by size assigned from largest to smallest;" and "assigning partitions form largest to smallest wherein partitions are filled in available free spaces identified from end to beginning." Lawrence teaches manipulation of disk partitions during replication/copying of these partitions. Lawrence discloses that ["each region is labeled with its associated free space size and an indication of whether the region is allocated to a partition" and also that "the regions can be sorted into order, with the largest presently available space first, other presently available spaces next in decreasing size, followed by the largest potentially available free space and the other available free space regions in decreasing order" (Column 14, lines 16-18 and 23-27). Lawrence further discloses that an "allocation map allows a comparison of the available free space size with the total size of the used sectors" and that the "allocation map also identifies the sectors that may be copied" (Column 16, lines 18-20 and 22-23)]. In addition, Lawrence explains that ["the cluster or sector numbers to be restored are sorted into order" (Column 20, lines 8-9)].

(US 6,088,778) by Ruff et al. and (US 6,253,300) by Lawrence et al. are

analogous art because they are form the same field of endeavor of

manipulating/modifying computer disk drive partitions.

At the time of the invention it would have been obvious to a person of

ordinary skill in the art to combine the system that permits manipulation of

computer disk drive paritions taught by Ruff; further provide the ability of sorting

disk partitions from largest to smallest in order to allocate free space using this

organization scheme supported by an allocation map, as disclosed by Lawrence.

The motivation for doing so would have been because Lawrence teaches

that sorting the regions in the allocation map allows for faster allocation of these

memory regions as it is disclosed that once the locations of memory regions ["

are known they can be read into memory in one pass though the source

partition" and therefore, "requires very little head movement" (Column 17,

lines 56-59)]. Lawrence further explains that **["only one pass need be made**

through the image file data, because the necessary clusters have been

identified and ordered during the previous steps" (Column 20, lines 14-16)].

Therefore, it would have been obvious to combine (US 6,253,300) by

Lawrence et al. and (US 6,088,778) by Ruff et al. for the benefit of creating a

computer disk drive partition manipulation method to obtain the invention as

specified in claims 1 and 13.

17.   As per **claims 2 and 14**, the combination of Ruff and Lawrence discloses

"the method as described in claims 1 and 13" **[See rejection to claims 1 and 13**

above] "wherein said size assigned is measured in cylinders" **[Ruff discloses**

that "a given sector on the disk may be identified by specifying a head, a

cylinder, and a sector within the cylinder" (Column 2, lines 15-17). Lawrence

also discloses that "the disk geometry specifies the sector size in bytes,

number of sectors per track, number of heads (tracks per cylinder), and

number of cylinders" (Column 12, lines 56-58)].

18.   As per **claims 5 and 17,** the combination of Ruff and Lawrence discloses

"the method as described in claims 1 and 13" **[See rejection to claims 1 and 13**

above] "further comprising providing a graphical user interface" **[With respect to**

this limitation, Ruff discloses that "the displaying step 112 preferably

utilizes a graphical user interface (GUI) in the implementing program to

provide users with feedback regarding the current partition configuration

and a command interface for molding that configuration" (Column 10, lines

1-5)].

19.   As per **claims 6 and 18,** the combination of Ruff and Lawrence discloses

"the method as described in claims 1 and 13" **[See rejection to claims 1 and 13**

above] "wherein said swap partition is assigned to one of said available free

spaces" and "wherein said swap partition is assigned to the beginning of said

disk" **[With respect to these limitations, Ruff teaches that "all logical**

partitions are contained within one primary partition; a primary partition

which contains logical partitions is also known as an extended partition"

(Column 3, lines 62-64) and further discloses "FAT (file allocation table)

partitions defined as primary partitions on the disk 2" (Figure 1 and

Column 8, lines 19-21)].

20.   As per **claims 7 and 19**, the combination of Ruff and Lawrence discloses,

"the method as described in claims 1 and 13" **[See rejection to claims 1 and 13**

above] "further comprising identifying a preserved partition, wherein said

preserved partition retains a location and a size" **[With respect to this**

limitation, Ruff discloses a method to "easily resize and reconfigure IBM-

compatible disk partitions without destroying any user data" (Column 6,

lines 3-4) and also teaches that "Journaling preserves at least one copy of

all user data on the disk at all times during the partition modification"

(Column 9, lines 3-5)].

21.   As per **claim 8**, Ruff discloses "A method for determining a file system

layout on a disk" as it explained that **["the present invention permits**

manipulation of selected partitions of a computer disk drive" (Column 1,

lines 1-2)] and providing **"users with feedback regarding the current**

partition configuration and a command interface for molding that

configuration" (Column 10, lines 3-5) and further discloses "FAT (*file***

*allocation table***) partitions defined as primary partitions on the disk 2"**

(Figure 1 and Column 8, lines 19-21)], "identifying preserved blocks of said

disk, each of said preserved blocks having a size and a location on said disk;"

[With respect to this limitation, Ruff discloses a method to "easily resize

and reconfigure IBM-compatible disk partitions without destroying any

user data" (Column 6, lines 3-4) and also teaches that "Journaling

preserves at least one copy of all user data on the disk at all times during

the partition modification" (Column 9, lines 3-5)] "assigning a size for each of

said partitions; identifying available free spaces on said disk for said unassigned

partitions; " and "assigning locations on said disk for partitions" **[Ruff discloses**

these limitations as it is taught that "file systems are generally used in

combination with *partition* to define the physical organization of data on

the disk. Partitions are often defined by the contents of a *partition table*"

(Column 3, lines 1-4) and further explains that the system includes

manipulations such as "displaying information about a partition such as its

location, size, and associated file systems type; moving a partition to a

different location on a disk that presently holds the partition or to another

disk; molding or resizing a partition to include a different number of disk

sectors within the partition; and resizing clusters in a FAT (*file allocation*

***table*) partition" (Column 6, lines 41-47)]**.

Ruff does not disclose expressly "sorting partitions by size assigned from

largest to smallest;" nor it is disclosed "assigning partitions form largest to

smallest wherein partitions are filled in available free spaces identified from end

to beginning."

Lawrence discloses "sorting partitions by size assigned from largest to

smallest;" and "assigning partitions form largest to smallest wherein partitions are

filled in available free spaces identified from end to beginning." Lawrence

teaches manipulation of disk partitions during replication/copying of these

partitions. Lawrence discloses that **["each region is labeled with its**

associated free space size and an indication of whether the region is

allocated to a partition" and also that "the regions can be sorted into order,

with the largest presently available space first, other presently available

spaces next in decreasing size, followed by the largest potentially available

free space and the other available free space regions in decreasing order"

(Column 14, lines 16-18 and 23-27). Lawrence further discloses that an

"allocation map allows a comparison of the available free space size with

the total size of the used sectors" and that the "allocation map also

identifies the sectors that may be copied" (Column 16, lines 18-20 and 22-

23)]. In addition, Lawrence explains that ["the cluster or sector numbers to be

restored are sorted into order" (Column 20, lines 8-9)].

(US 6,088,778) by Ruff et al. and (US 6,253,300) by Lawrence et al. are

analogous art because they are form the same field of endeavor of

manipulating/modifying computer disk drive partitions.

At the time of the invention it would have been obvious to a person of

ordinary skill in the art to combine the system that permits manipulation of

computer disk drive partitions taught by Ruff; further provide the ability of sorting

disk partitions from largest to smallest in order to allocate free space using this

organization scheme supported by an allocation map, as disclosed by Lawrence.

The motivation for doing so would have been because Lawrence teaches

that sorting the regions in the allocation map allows for faster allocation of these

memory regions as it is disclosed that once the locations of memory regions ["

are known they can be read into memory in one pass though the source

partition" and therefore, "requires very little head movement" (Column 17,

lines 56-59)]. Lawrence further explains that ["only one pass need be made

through the image file data, because the necessary clusters have been

identified and ordered during the previous steps" (Column 20, lines 14-16)].

Therefore, it would have been obvious to combine (US 6,253,300) by

Lawrence et al. and (US 6,088,778) by Ruff et al. for the benefit of creating a

computer disk drive partition manipulation method to obtain the invention as

specified in claim 8.

22.   As per **claim 9**, the combination of Ruff and Lawrence discloses "the

method as described in claim 8" **[See rejection to claim 8 above]** "wherein said

size assigned is measured in cylinders" **[Ruff discloses this limitation as it is**

taught that "a given sector on the disk may be identified by specifying a

head, a cylinder, and a sector within the cylinder" (Column 2, lines 15-17).

Lawrence also discloses that **"the disk geometry specifies the sector size in**

bytes, number of sectors per track, number of heads (tracks per cylinder),

and number of cylinders" (Column 12, lines 56-58)].

23.   As per **claim 12,** the combination of Ruff and Lawrence discloses, "the

method as described in claim 9" **[See rejection to claim 9 above]** "wherein one

of said preserved partitions is a swap partition and is assigned to the beginning

of said disk" **[With respect to this limitation, Ruff discloses that "all logical**

partitions are contained within one primary partition; a primary partition

which contains logical partitions is also known as an *extended partition*"

(Column 3, lines 62-64) and further discloses "FAT (*file allocation table*)

partitions defined as primary partitions on the disk 2" (Figure 1 and

Column 8, lines 19-21). Ruff also teaches a method to "easily resize and

reconfigure IBM-compatible disk partitions without destroying any user data" (Column 6, lines 3-4) and explains that "journaling preserves at least one copy of all user data on the disk at all times during the partition modification" (Column 9, lines 3-5)].

24.   **Claims 3-4, 10-11 and 15-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruff et al. (US 6,088,778) and Lawrence et al. (US 6,253,300) as applied to claims **1-2, 5-9, 12-14, 17-19, 20-21, and 23-24** above, and further in view of Beardsley et al. (US 6,173,360) and Stoddard et al. (US 6,453,383).

25.   As per **claims 3-4, 10-11 and 15-16**, the combination of Ruff and Lawrence discloses "the method as described in claims 2, 8 and 13" **[See rejection to claims 2, 8 and 13 above]** wherein Ruff teaches that disk drive cylinders contain sectors and that **["a given sector on the disk 2 may be identified by specifying a head, a cylinder, and a sector within the cylinder" (Column 2, lines 15-17)]**. Ruff also discloses that cylinders have a **["starting address 42 and the ending address 44" (Column 4, lines 27-33)]** as specifying size boundaries for cylinders; explains that a **["sector count 46 holds the total number of disk sectors in the partition" (Column 3, lines 51-52)]** and further teaches a form of manipulating partitions that involves resizing wherein an example is disclosed as **["shrinking partitions from 200 megabytes down to 127 megabytes by moving the right edge toward the left edge" (Column 16, lines 28-30)]** as disclosing measuring a partition in bytes/megabytes as well as cylinders. Lawrence further specifically discloses

measuring size in both; bytes and cylinders **["the disk geometry specifies the sector size in bytes, number of sectors per track, number of heads (tracks per cylinder), and number of cylinders" (Column 12, lines 56-58)]**. Therefore, the partition has a size given in both; cylinder and bytes/megabytes. However, the combination of Ruff and Lawrence fail to disclose expressly "converting size measured in cylinders to megabytes and rounding the size to a minimum number of megabytes represented by said size measured in cylinders without changing the number of megabytes."

Beardsley discloses "converting size measured in cylinders to megabytes" as using a converter so that by **["knowing the cylinder, track, and record number of the desired data, the data is accessed and mapped into the respective 512-byte blocks" (Column 8, lines 36-39)]**.

Stoddard further discloses "rounding the size to a minimum number of megabytes represented by said size measured in cylinders without changing the number of megabytes" as a method of manipulating and resizing disk partitions. Stoddard explains that **["when resizing a segmented partition, the segments may be resized proportionally to achieve the desired partition size" and discloses one embodiment that involves "taking the desired partition size specified by the user and rounding it to a cylinder boundary" (Column 17, lines 3-9) and "adjusting the free space between the segments so it ends on a block boundary of the next volume being worked on" (Column 19, lines 27-31)]**.

(US 6,173,360) by Beardsley et al., (US 6,453,383) by Stoddard et al., (US 6,088,778) by Ruff et al. and (US 6,253,300) by Lawrence et al. are analogous art because they are form the same field of endeavor of manipulating/modifying computer disk drive partitions.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the system that permits manipulation of computer disk drive partitions taught by Ruff, provide the ability of sorting disk partitions from largest to smallest in order to allocate free space using this organization scheme supported by an allocation map, as disclosed by Lawrence further include the ability of converting a measure given in cylinders into byte/megabytes as described by Beardsley and further round this measure as taught by Stoddard.

The motivation for doing so would have been because Beardsley teaches that providing a converter to map cylinders to bytes/megabytes allows **["a host system using a first interface to communicate with a storage system using a second interface" (Column 3, lines 52-54 and Column 8, lines 6-8) as "the converter 200 used to implement the mapping of the data and commands allows the VSS to appear to the open host system and work the same as any hard disk integral to the open host system" and explains that "the converter system 100 dynamically translates the 512-byte hard disk LBAs of the DASD 114 into cylinder, track, and record numbers" (Column 8, lines 36-39 and 19-23)].** Another motivation for doing so is because Stoddard teaches that "taking the desired partition size specified by the user and rounding it to a

cylinder boundary and adjusting the free space between the segments so it ends

on a block boundary of the next volume being worked on" allows for **["efficient,**

correct, and safe manipulation of volume segments and their

accompanying volumes and partitions" (Column 28, lines 20-22) as all the

free spaces between segments are "temporarily incorporated into the

following segment as it is positioned in its new location and resized to its

new size" (Column 17, lines 25-31) as this advantage allows for avoiding

having free and unusable spaces between segments].

Therefore, it would have been obvious to combine (US 6,253,300) by

Lawrence et al., (US 6,088,778) by Ruff et al., (US 6,173,360) by Beardsley et al.

and (US 6,453,383) by Stoddard et al. for the benefit of creating a computer disk

drive partition manipulation method to obtain the invention as specified in claims

3-4, 10-11 and 15-16.

26.   **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over

Ruff et al. (US 6,088,778) in view of Beardsley et al. (US 6,173,360)

27.   As per **claim 22 (Notice: claim 23 on Application has been**

renumbered to claim 22) Ruff discloses "the system as described in claim 20"

[See rejection to claim 20 above] wherein Ruff teaches that disk drive cylinders

contain sectors and that **["a given sector on the disk 2 may be identified by**

specifying a head, a cylinder, and a sector within the cylinder" (Column 2,

lines 15-17)]. Ruff also discloses that cylinders have a **["starting address 42**

and the ending address 44" (Column 4, lines 27-33)] as specifying size

boundaries for cylinders; explains that a **["sector count 46 holds the total**

number of disk sectors in the partition" (Column 3, lines 51-52)] and further teaches a form of manipulating partitions that involves resizing wherein an example is disclosed as **["shrinking partitions from 200 megabytes down to 127 megabytes by moving the right edge toward the left edge" (Column 16, lines 28-30)]** as disclosing measuring a partition in megabytes as well as cylinders. Therefore, the partition has a size given in both; cylinder and byte/megabytes. However, Ruff fails to disclose expressly that "a size of a partition is converted from cylinders to megabytes wherein a minimum number of megabytes represented by a number of cylinders."

Beardsley discloses "converting size measured in cylinders to megabytes" as using a converter so that by **["knowing the cylinder, track, and record number of the desired data, the data is accessed and mapped into the respective 512-byte blocks" (Column 8, lines 36-39)]**.

(US 6,173,360) by Beardsley et al. and (US 6,088,778) by Ruff et al. are analogous art because they are form the same field of endeavor of manipulating/modifying computer disk drive partitions.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the system that permits manipulation of computer disk drive partitions taught by Ruff, provide the ability of converting a measure given in cylinders into byte or megabytes as described by Beardsley.

The motivation for doing so would have been because Beardsley teaches that providing a converter to map cylinders to bytes/megabytes allows **["a host system using a first interface to communicate with a storage system using**

a second interface" (Column 3, lines 52-54 and Column 8, lines 6-8) as "the

converter 200 used to implement the mapping of the data and commands

allows the VSS to appear to the open host system and work the same as

any hard disk integral to the open host system" and explains that "the

converter system 100 dynamically translates the 512-byte hard disk LBAs

of the DASD 114 into cylinder, track, and record numbers" (Column 8, lines

36-39 and 19-23)].

Therefore, it would have been obvious to combine (US 6,088,778) by Ruff

et al. and (US 6,173,360) by Beardsley et al. for the benefit of creating a

computer disk drive partition manipulation method to obtain the invention as

specified in claim 22.

VI. <u>RELEVANT ART CITED BY THE EXAMINER</u>

28.   The following prior art made of record and not relied upon is cited to

establish the level of skill in the applicant's art and those arts considered

reasonably pertinent to applicant's disclosure. See **MPEP 707.05(c).**

29.   The following references teach computer disk drive partition manipulation.

U.S. PATENT NUMBER

US 5,675,769

US 5,435,004

US 6,108, 759

US 6,138,179

US 6,185,575

30.   The following reference teaches manipulation of computer disk drive

partitions by sorting.

U.S. PATENT NUMBER

US 6,366,911

31.   The following reference teaches manipulation of computer disk drive

partitions including converting measures/addresses given in cylinders to

bytes/megabytes.

U.S. PATENT NUMBER

US 5,887,164

32.   The following reference teaches manipulation of computer disk drive

partitions in the Linux environment.

"Linux Partition How To," by Tony Harris and Kristian Koehntopp, September 1, 2000

>   http://cayanet.dnsalias.org/documentation/Linux/en/minihowtos/pdf/Partition.pdf

VII. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

33.   The following is a summary of the treatment and status of all claims in the

application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

34.   Per the instant office action, claims 1-24 have received a first action on the

merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

35.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Yaima Campos whose telephone number is

(571) 272-1232 and email address is Yaima.Campos@uspto.gov. The examiner

can normally be reached on Monday to Friday 8:30 AM to 5:00 PM.

IMPORTANT NOTE

36.   If attempts to reach the above noted Examiner by telephone or email are

unsuccessful, the Examiner's supervisor, Mr. Donald Sparks, can be reached at

the following telephone number: Area Code (571) 272-4201.

The fax phone number for the organization where this application or

proceeding is assigned is 571-273-8300. Information regarding the status of an

application may be obtained from the Patent Application Information Retrieval

(PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about

the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on

access to the Private PAIR system, contact the Electronic Business Center

(EBC) at 866-217-9197 (toll-free).

December 5, 2005   Yaima Campos
                                                         Examiner
                                                         Art Unit 2185

DONALD SPARKS
SUPERVISORY PATENT EXAMINER